

ABSTRACT OF THE DISCLOSURE

Large-area, single crystal semi-insulating gallium nitride that is usefully employed to form substrates for fabricating GaN devices for electronic and/or optoelectronic applications. The large-area, semi-insulating gallium nitride is readily formed by doping the growing gallium nitride material during growth thereof with a deep acceptor dopant species, e.g., Mn, Fe, Co, Ni, Cu, etc., to compensate donor species in the gallium nitride, and impart semi-insulating character to the gallium nitride.